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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,335	05/04/2001	Haim Rochberger	Q61794	6755

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Washington, DC 20037-3213

EXAMINER

CHO, HONG SOL

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/848,335

**Applicant(s)**

ROCHBERGER ET AL.

**Examiner**

Hong Cho

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13,15-17,26,27,29,33,41 and 46 is/are allowed.
- 6) ☒ Claim(s) 1-12,14,18-25,28,30-32,34-40,42-45,47 and 48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>05042001</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Oath/Declaration***

1. Oath/Declaration is missing.

### ***Claim Objections***

2. Claim 28 is objected to because of the following informalities:

Re claim 28, it appears that there is a part of claim limitation missing in line 5.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

4. Claims 7, 20, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7, 20, and 36 recites the limitation "...data is invariant from packet to packet within a session". It is unclear if the header of data is invariant or the payload of data is invariant.

Claim 28 recites the limitation "said plurality of routers/proxies" in line 6. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-12, 18-25, 28, 30-32, 34-40, 42, and 43 are rejected under 35 U.S.C. 102(e) as being unpatentable over Albert et al (U.S. 6735169), hereinafter referred to as Albert.

Re claims 1, 18, 28, and 31, Albert discloses providing a plurality of network services where several clients, servers, forwarding agents, and service managers (*a load balancer*) are connected to the network (*a system for distributing a packet received over a network with a plurality of servers and a load balancer*, figure 2A). Albert discloses a service manager providing instructions to the forwarding agent detailing where packets for each load balanced flow are to be forwarded by using fixed affinities (*a load balancer for selecting one of the plurality of servers according to a calculation*, column 8, lines 41-45). The source and destination addresses, the source and destination port numbers and protocol identification is referred to as an affinity key (column 8, lines 8-11).

Re claim 2, Albert discloses forwarding packets to a destination based on a protocol identification (*each packet from a particular session is sent to the same server*, column 7, lines 50-52).

Re claims 3, 4, and 30, Albert discloses a service manager selecting a destination without a feedback from the plurality of servers (column 8, lines 41-45).

Re claim 5, Albert discloses a service manager without a session table.

Re claims 6, 8-12, 19, 21-25, and 32, Albert discloses selecting a destination node (*a server*) based on the source and destination addresses, the source and destination port numbers and protocol identification of the packet (column 8, lines 8-12).

Re claims 7 and 20, as best understood, it is inherent that Albert discloses a data being forwarded to the same destination for a given TCP connection (*data is invariant from packet to packet within a session*, column 13, lines 29-34).

Re claims 34 and 42, Albert discloses providing a plurality of forwarding agents and service managers (*router/proxies*) are connected to the network (*a system for distributing a packet received over a network with a plurality of servers*, figure 4). Albert discloses a service manager providing instructions to the forwarding agent at the router that allow the router to process the packets (*each of routers/proxies receiving the packet and performing a calculation for selecting one of routers/proxies for handling the packet*, column 9, lines 48-57).

Re claims 35, 37-40, and 43, Albert discloses selecting a destination node (*a server*) based on the source and destination addresses, the source and destination port numbers and protocol identification of the packet (column 8, lines 8-12).

Re claim 36, as best understood, it is inherent that Albert discloses a data being forwarded to the same destination for a given TCP connection (*data is invariant from packet to packet within a session*, column 13, lines 29-34).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 14, 44, 45, 47, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert.

Re claim 14, Albert does not disclose redundant servers in a system. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have redundant servers in Albert to provide backup service in case a primary server fails.

Re claims 44 and 45, Albert does not disclose a server performing a calculation for selecting one of the routers/proxies to handle the packet. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the process of selecting a server in reverse direction so that a server instead a router performs a selection process based on the source and destination addresses, the source and destination port numbers and protocol identification of a packet

Re claims 47 and 48, Albert discloses providing a plurality of forwarding agents and service managers (*router/proxies*) are connected to the network (*a system for distributing a packet received over a network with a plurality of servers*, figure 4). Albert discloses a

service manager providing instructions to the forwarding agent at the router that allow the router to process the packets (*each of routers/proxies receiving the packet and performing a calculation for selecting one of routers/proxies for handling the packet*, column 9, lines 48-57).

***Allowable Subject Matter***

9. Claims 13, 15-17, 26, 27, 29, 33, 41, and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. Claims 13, 26, 29, 33, 41, and 46 are allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose selecting one of the plurality of servers or routers according to a calculation based on the formula,  $((\text{SRC\_IP\_ADDR} + \text{DEST\_IP\_ADDR} + \text{DEST\_PORT}) \% N)$ . It is noted that the closest prior art of record, Albert shows a method of selecting a server or a router using the source and destination addresses and the source and destination port numbers of the packet. However, Albert fails to suggest selecting a server according to the above formula as required by the claimed invention.

Claims 17 and 27 are allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose selecting one of the plurality of servers according to a calculation based on the formula,  $((\text{SRC\_IP\_ADDR} + \text{SRC\_PORT} + \text{DEST\_IP\_ADDR} + \text{DEST\_PORT} + \text{PROTOCOL}) \% N)$ . It is noted that

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the closest prior art of record, Albert shows a method of selecting a server using the source and destination addresses, the source and destination port numbers and protocol identification of the packet. However, Albert fails to suggest selecting a server according to the above formula as required by the claimed invention.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - US Patent (6745243) to Squire et al. discloses network caching and load balancing
  - US Patent (6128279) to O'Neil et al. discloses balancing loads among network servers
  - US Patent (6748437) to Mankude et al. discloses creating forwarding lists for cluster networking
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3088.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hong Cho  
Patent Examiner  
12-08-2004

  
RICKY NGO  
PRIMARY EXAMINER